# UNITED STATES PATENT AND TRADEMARK OFFICE

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| 10/743,595 | 12/22/2003 | Harald van Kampen | Kampen 1-13 | 7575 |

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MENDELSOHN & ASSOCIATES, P.C.
1500 JOHN F. KENNEDY BLVD., SUITE 405
PHILADELPHIA, PA 19102

| EXAMINER |
|---|
| LOO, JUVENA W |

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| 2609 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| | Application No. | Applicant(s) |
| --- | --- | --- |
| **Office Action Summary** | 10/743,595 | VAN KAMPEN ET AL. |
| | Examiner | Art Unit | |
| | Juvena W. Loo | 2609 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _22 December 2003_.

2a)☐ This action is **FINAL**.          2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-21_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-21_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _22 December 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *  c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

## DETAILED ACTION

This is in response to application filed on December 22, 2003 in which claims 1 to 21

are presented for examination.

### *Status of Claims*

Claims 1-21 are pending, of which claims 1, 13, 18, 19, 20, and 21 are in independent

form.

### *Specification*

1.      The specification is objected to because the application numbers for the related

cases are not listed.

### *Claim Rejections - 35 USC § 102*

2.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

3.      Claims 1-21 are rejected under 35 USC 102(e) as being anticipated by Meier et
al. (US 2005/0018624 A1).

Regarding claim 1, Meier discloses a station of a contention-based WLAN

system in which the station is adapted to operate in awake and doze states, a method

comprising:

(A) the station transitioning from the doze state to the awake state (Page 6,

section 0085: the station automatically transitions to awake state); and

(B) the station transmits to an access point (AP) of the system a first frame,

wherein a designated bit in the first frame informs the AP that the station will remain in

the awake state and be available to receive at least one transmission from the AP

(Figures 8 and 10; Page 6, section 0094 and Page 7, section 0099: once the station

transitions to the awake state, it either sends a data frame with the More Data bit set to

"off" or sends a null frame with the More Data bit set to "off").

Regarding claim 2, Meier discloses all the limitations of claim 1. Additionally,

Meier discloses the contention-based WLAN system conforms to an IEEE 802.11

standard (Page 3, section 0041).

Regarding claim 3, Meier discloses all the limitations of claim 1. Additionally,

Meier discloses the contention-based WLAN system conforms to an extension of an

IEEE 802.11 standard (Page 4, section 0057).

Regarding claim 4, Meier discloses all the limitations of claim 1. Additionally,

Meier discloses that steps (A) and (B) are performed independent of any beacon

schedule for the system (Page 7, section 0102: the wake-up schedule may be beacon-aligned or unaligned).

Regarding claim 5, Meier discloses all the limitations of claim 1. Additionally, Meier discloses the method further comprising the station receives from the AP an acknowledgement frame corresponding to the first frame (Figures 8 and 10: the AP responds to the first frame from the station with a Acknowledgement frame).

Regarding claim 6, Meier discloses all the limitations of claim 5. Additionally, Meier discloses that a designated bit in the acknowledgement frame informs the station whether the AP has data to transmit to the station (Figures 8 and 10; Page 6, section 0094 and Page 7, section 0099: the AP sends a Acknowledgement frame with the More Data flag set to either "on" to indicate it has data to transmit to the station or "off" to indicate it has no additional data for the station).

Regarding claim 7, Meier discloses all the limitations of claim 1. Additionally, Meier discloses that when data is available for transmission from the station to the AP, the first frame corresponds to the data (Figure 8; Page 6, section 0094: the station sends a data frame during an unscheduled wake-up period); and when there is no data available for transmission from the station to the AP, the first frame is a null frame. (Figure 10; Page 7, section 0099: once the station is in the awake state, the station sends a null frame to the AP).

Regarding claim 8, Meier discloses all the limitations of claim 1. Additionally, Meier discloses that step (A) comprises starting a timer (Page 5, section 0072: the AP establishes the "start time" of a periodic wakeup time as an integer multiple of a TSF timer ticks); and when there is no data available for transmission from the station to the AP, transitioning the station from the doze state to the awake state after the timer reaches a threshold value (Page 5, section 0072: a station must be awake at each scheduled wakeup time); and that step (B) comprises the first frame is a null frame (Figure 10; Page 7, section 0099: once the station is in a wakeup state, the station sends a null frame to the AP).

Regarding claim 9, Meier discloses all the limitations of claim 8. Additionally, Meier discloses that the threshold value is less than an inter-beacon time interval (Page 5, section 0072: a scheduled wakeup period starts at the scheduled wakeup time and ends when the station receives a downlink frame with the More Data bit set to "off" or it receives a Beacon with the Traffic Indication Message bit set to "off").

Regarding claim 10, Meier discloses all the limitations of claim 1. Additionally, Meier inherently discloses the designated bit is a power management bit of an IEEE 802.11 standard (Figure 4, 402; Page 4, section 60: the station notifies the AP that it is operating in an power-save delivery mode).

Regarding claim 11, Meier discloses all the limitations of claim 1. Additionally, Meier discloses the designated bit is a more data bit of an IEEE 802.11 standard (Page 6, section 0094: the station sends frames to the AP with the More Data bit set to either "off" or "on").

Regarding claim 12, Meier discloses all the limitations of claim 1. Additionally, Meier discloses the method further comprising:

(C) with the station in the awake state and the AP informed that the station is in the awake state, transmitting to the AP a closing frame, wherein a designated bit in the closing frame informs the AP that the station will transition to the doze state (Figures 8, 9, and 10; Page 6, section 0096 and Page 7, section 0099: the station sends an Acknowledgement frame with More Data bit set to "off" indicating that there is no more data to be transmitted to the AP); and

(D) transitioning the station from the awake state to the doze state (Figures 8, 9, 10; Page 6, section 0096 and Page 7, section 0099: the station returns to a doze state after the Acknowledgement frame when there is no more data to send to the AP).

Regarding claim 13, Meier discloses an access point (AP) of a contention-based WLAN system in which a station is adapted to operate in awake and doze states, a method comprising:

(A) receiving from the station a first frame, wherein a designated bit in the first frame informs the AP that the station will remain in the awake state and be available to

receive at least one transmission from the AP (Figures 8 and 10; Page 6, section 0094 and Page 7, section 0099: once the station transitions to the awake state, it either sends a data frame with the More Data bit set to "off" or sends a null frame with the More Data bit set to "off"); and

(B) transmitting to the station an acknowledgement frame corresponding to the first frame, wherein a designated bit in the acknowledgement frame informs the station whether the AP has data to transmit to the station (Figures 8 and 10; Page 6, section 0094 and Page 7, section 0099: the AP responds to the first frame from the station with a Acknowledgement frame with the More Data bit set either to "on" or "off" to indicate whether the AP has data to send to the station).

Regarding claim 14, Meier discloses all the limitations of claim 13. Additionally, Meier discloses the contention-based. WLAN system conforms to an extension of an IEEE 802.11 standard (Page 4, section 0057).

Regarding claim 15, Meier discloses all the limitations of claim 14. Additionally, Meier discloses the designated bit is a more data bit of the IEEE 802.11 standard (Figures 8 and 10: the AP responds to the first frame from the station with a Acknowledgement frame with the More Data bit set to either "on" or "off").

Regarding claim 16, Meier discloses all the limitations of claim 13. Additionally, Meier discloses that steps (A) and (B) are performed independent of any beacon

schedule for the system (Page 7, section 0102: the wake-up schedule may be beacon-aligned or unaligned).

Regarding claim 17, Meier discloses all the limitations of claim 13. Additionally, Meier discloses when data is available for transmission from the station to the AP, the first frame corresponds to the data (Figure 8; Page 6, section 0094: the station sends a data frame to the AP during an unscheduled wake-up period); and when there is no data available for transmission from the station to the AP, the first frame is a null frame. (Figure 10; Page 7, section 0099: once the station is in awake state, the station sends a null frame to the AP).

Regarding claim 18, Meier inherently discloses a station, in a contention-based WLAN system, adapted to operate in awake and doze states (Meier: Figure 3, 304 and 312) comprising:

(A) a processor, wherein, with the station in the doze state, the processor configures the station to transition from the doze state to the awake state (Figure 3, 304 and Page 4, section 0059: the station switches to the awake mode); and

(B) a transceiver, wherein the processor configures the transceiver to transmit to an access point (AP) of the system a first frame (Page 4, section 0059: the station switches to the awake mode and sends a frame to the AP), wherein a designated bit in the first frame informs the AP that the station will remain in the awake state and be available to receive at least one transmission from the AP (Page 6, section 0094: the

station switches to the awake mode and sends a frame with the More Data bit set to either "on" or "off" to the AP).

Regarding claim 19, Meier discloses a contention-based WLAN system, comprising an access point (AP) and a station (Figure 1), wherein the station is adapted to operate in awake and doze states (Figure 3, 304 and 312); and the station (Figure 3, 304 and 312) comprises:

(A) a processor, wherein, with the station in the doze state, the processor configures the station to transition from the doze state to the awake state (Figure 3, 304 and Page 4, section 0059: the station switches to the awake mode); and

(B) a transceiver, wherein the processor configures the transceiver to transmit to the AP a first frame (Page 4, section 0059: the station switches to the awake mode and sends a frame to the AP), wherein a designated bit in the first frame informs the AP that the station will remain in the awake state and be available to receive at least one transmission from the AP (Page 6, section 0094: the station switches to the awake mode and sends a frame with the More Data bit set to either "on" or "off" to the AP).

Regarding claim 20, Meier discloses an access point (AP) of a contention-based WLAN system (Figure 2) in which a station is adapted to operate in awake and doze states (Figure 3, 304 and 312), the AP comprising a processor (Figure 2, 208) and a transceiver (Figure 2, 210), wherein the processor configures the transceiver:

(A) to receive from the station a first frame, wherein a designated bit in the first frame informs the AP that the station will remain in the awake state and be available to receive at least one transmission from the AP (Figure 8, 802 and Figure 10, 910; Page 6, section 0094 and Page 7, section 0099: once the station is in awake state, the station either sends a data or a null frame, with the More Data bit set to "off", to the AP); and

(B) to transmit to the station an acknowledgement frame corresponding to the first frame, wherein a designated bit in the acknowledgement frame informs the station whether the AP has data to transmit to the station (Figure 8, 804 and Figure 10, 912: Page 6, section 0094 and Page 7, section 0099: the AP sends an acknowledgement frame with the More Data bit to indicate whether it has data to transmit to the station).

Regarding claim 21, Meier discloses a contention-based WLAN system, comprising an access point (AP) and a station (Figure 1), wherein:

the station is adapted to operate in awake and doze states (Figure 3, 304 and 312); and

the AP comprises a processor and a transceiver (Figure 2), wherein the processor configures the transceiver:

(A) to receive from the station a first frame, wherein a designated bit in the first frame informs the AP that the station will remain in the awake state and be available to receive at least one transmission from the AP (Figure 8, 802 and Figure 10, 910; Page 6, section 0094 and Page 7, section 0099: once the station is in awake state, the station either sends a data or a null frame ,with the More Data bit set to "off", to the AP); and

(B) to transmit to the station an acknowledgement frame corresponding to the first frame, wherein a designated bit in the acknowledgement frame informs the station whether the AP has data to transmit to the station (Figure 8, 804 and Figure 10, 912: Page 6, section 0094 and Page 7, section 0099: the AP sends an acknowledgement frame with the More Data bit to indicate whether it has data to transmit to the station).

## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juvena W. Loo whose telephone number is (571) 270-1974. The examiner can normally be reached on Mon.-Thurs : 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Coby can be reached on (571) 272-4017. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Juvena W Loo
Examiner
Art Unit 2609

FRANTZ COBY
SUPERVISORY PATENT EXAMINER